

AD-A020 879

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT.  
CENTRAL SIBERIA, 12 AUGUST 1975

J. R. Woolson, et al

Teledyne Geotech

Prepared for:

Air Force Technical Applications Center

October 1975

DISTRIBUTED BY:

**NTIS**

National Technical Information Service  
U. S. DEPARTMENT OF COMMERCE

057180



ADA020879

**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT**  
**Central Siberia, 12 August 1975**

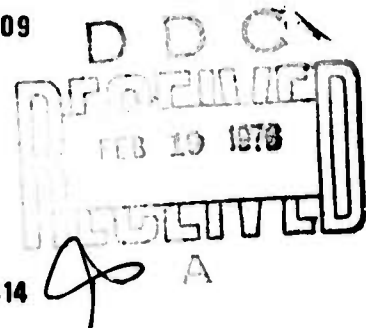
**J.R. Woolson, D.D. Solari, M.S. Dawkins, K.J. Hill, and R.J. Markle**  
**Alexandria Laboratories**  
**Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314**

**October 1975**

**APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.**

**Sponsored By**  
**The Defense Advanced Research Projects Agency**  
**Nuclear Monitoring Research Office**  
**1400 Wilson Boulevard, Arlington, Virginia 22209**  
**ARPA Order No. 2897**

**Monitored By**  
**VELA Seismological Center**  
**312 Montgomery Street, Alexandria, Virginia 22314**



**Reproduced by**  
**NATIONAL TECHNICAL**  
**INFORMATION SERVICE**  
**U S Department of Commerce**  
**Springfield VA 22151**

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-33	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Central Siberia, 12 August 1975		5. TYPE OF REPORT & PERIOD COVERED Technical
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Woolson, J. R., Solari, D. D., Dawkins, M. S., Hill, K. J., and Markle, R. J.		8. CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013
9. PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech 314 Montgomery Street Alexandria, Virginia 22314		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		12. REPORT DATE 11 November 1975
		13. NUMBER OF PAGES 15
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

SDCS Event Report No. 33

Central Siberia, 12 August 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	Origin Time	Latitude	Longitude	$m_b$	$M_s$
NORSAR	14:59:57	66.9N	133.4E	5.1	N/A

NOTE: Possible association with this event;

Hagfors Array, Sweden	14:58:07	60 N	149 E	5.2	N/A
-----------------------	----------	------	-------	-----	-----

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitude become

15:00:02.5	71.3N	127.3E	5.2	N/A
------------	-------	--------	-----	-----

HN-ME was not operational for this event.

Short-period signals associated with this event were recorded at CPSO, RK-ON, FN-WV, LASA and NORSAR. Apparent high level background noise prevented determination of signal arrival at WH2YK.

Analysis of the SDCS and NORSAR long-period data failed to produce recognizable signals associated with this event. At RK-ON the vertical and radial LP instruments have unknown gains while the LP transverse instrument is inoperative. Long-period array data from ALPA and LASA were unrecoverable.

Details of the program used to obtain beamed vertical, radial and transverse long-period data at NORSAR are in the process of being reviewed. Vertical beams are probably valid while horizontal beams are questionable.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are unknown for this event. Scaling factors are not reported for NORSAR short-period.

ADDITIONAL FOR

PTID	WAVE SECTION	<input checked="" type="checkbox"/>
DC	DUTY SECTION	<input type="checkbox"/>
EXAMINER		<input type="checkbox"/>
JUSTIFICATION		
BY		
DATE		
TIME		
CODE		
FILE		

A

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14	00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35	41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41	19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09	43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

# HYPOCENTER DETERMINATION

INPUT FOR EVENT 12 AUG 75  
15:00:00.0 70.002N 126.000E 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
NAC	15 07 46.1	-0.0	0.2	41.0	318.0
RK-ON	15 09 32.3	-0.1	0.1	54.7	30.6
LAC	15 09 44.7	0.1	0.9	56.3	41.7
FN-WV	15 11 06.9	C.2	-0.5	68.8	22.3
CFC	15 11 19.4	-C.2	-0.8	70.9	27.9

## 67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
15:00:29.5	71.943N	126.789E	212. CALC	0.2	7	5
15:00:02.5	71.283N	127.261E	0. REST	0.7	5	5

CALC  
0 . 2  
1 . 2  
0 . 0 0  
0 . 0 0  
0 . 0 0  
0 . 0 0  
0 . 0 0

REST  
0 . 2  
0 . 2  
0 . 0 0  
0 . 0 0  
0 . 0 0  
0 . 0 0  
0 . 0 0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.03  
MAJOR 394.5KM. MINOR 34.4KM. AZ= 3 AREA= 42589 SQ.KM. REST

-4-

# DATA SUMMARY

INPUT FOR EVENT      12 AUG 75  
 15:00:00.0      70.001N      126.000E      0KM.

STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIR	DIST
		TIME					MB	MS		
NAC	EP	15 07	46.1	AE	0.6	41.	4.81			41.0
PK-CN	FP	15 09	32.3	SPZ	0.6	80.	5.40			54.7
IAC	EP	15 09	44.7	SAB	0.8	54.	5.23			56.3
FN-WV	EP	15 11	06.8	SPZ	0.5	20.	5.00			68.8
CFC	EP	15 11	19.4	SPZ	0.7	63.	5.40			70.9

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA
15:00:29.5	71.943N	126.789E	212. CAIC	4.79	0.23	5
15:00:02.5	71.283N	127.261E	0. REST	5.17	0.26	5

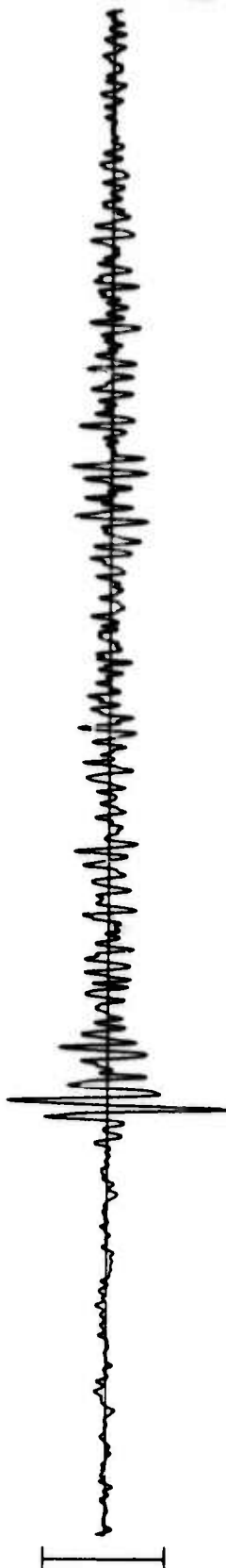
RK-ON 12 AUG 75

SPZ  
70.37 MP

15:00:32.3



SPR  
29.55 MP



SPT  
11.00 MP



TIME



15:10:00

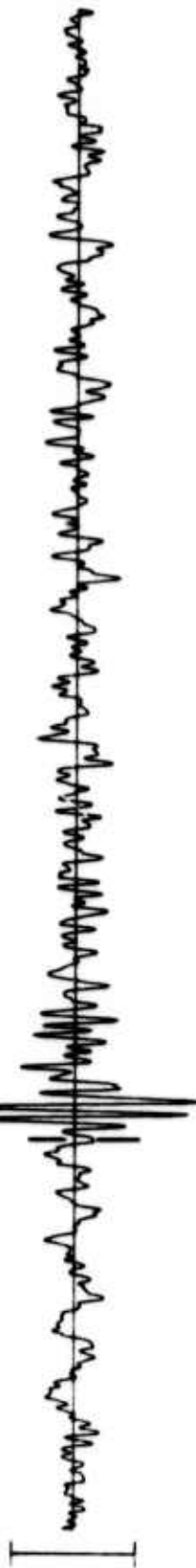
5



FN-WV 12 AUG 75

SPZ  
15.27 MP

15:11:00.0



SPR  
8.14 MP



SPT  
12.03 MP



TIME

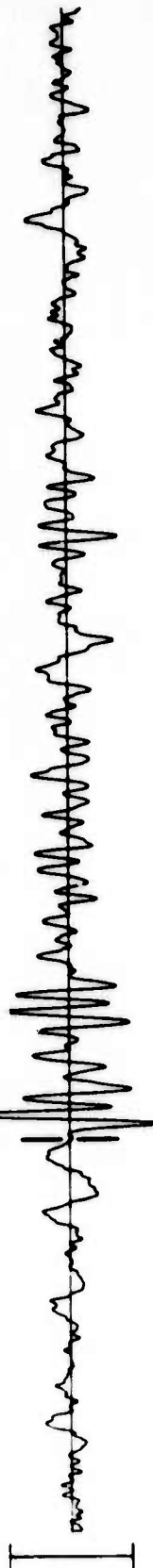


10 SEC

15:11:20

CP-SO 12 AUG 75

15:11:19.4



SPZ  
39.10 MP



SPR  
7.45 MP



SPT  
0.60 MP

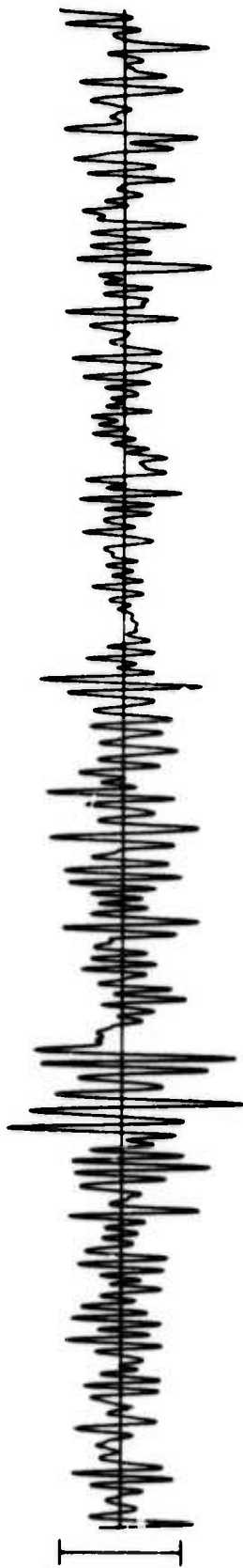


TIME

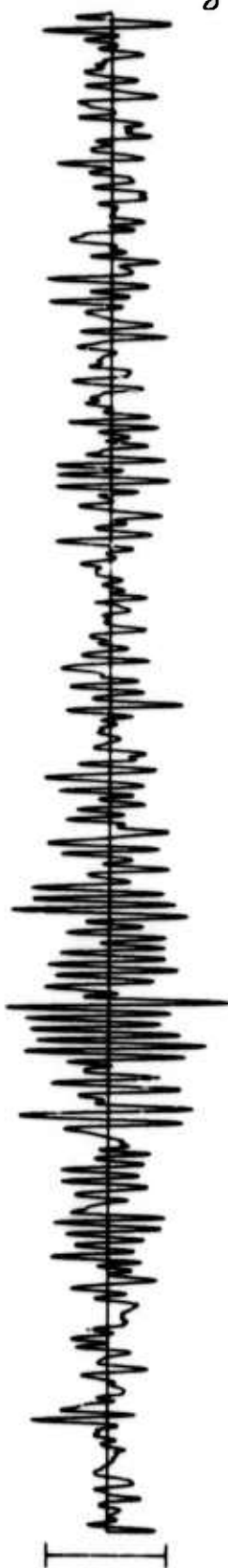
15:11:30

WH2YK 12 AUG 75

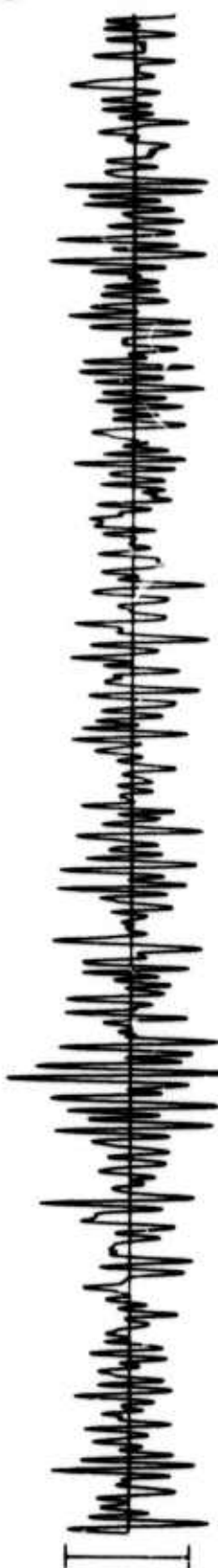
SPZ  
14.21 MP



SPR  
11.52 MP



SPT  
12.62 MP



TIME



10 SEC

↑  
15:07:20

NORSAR EVENT FILE

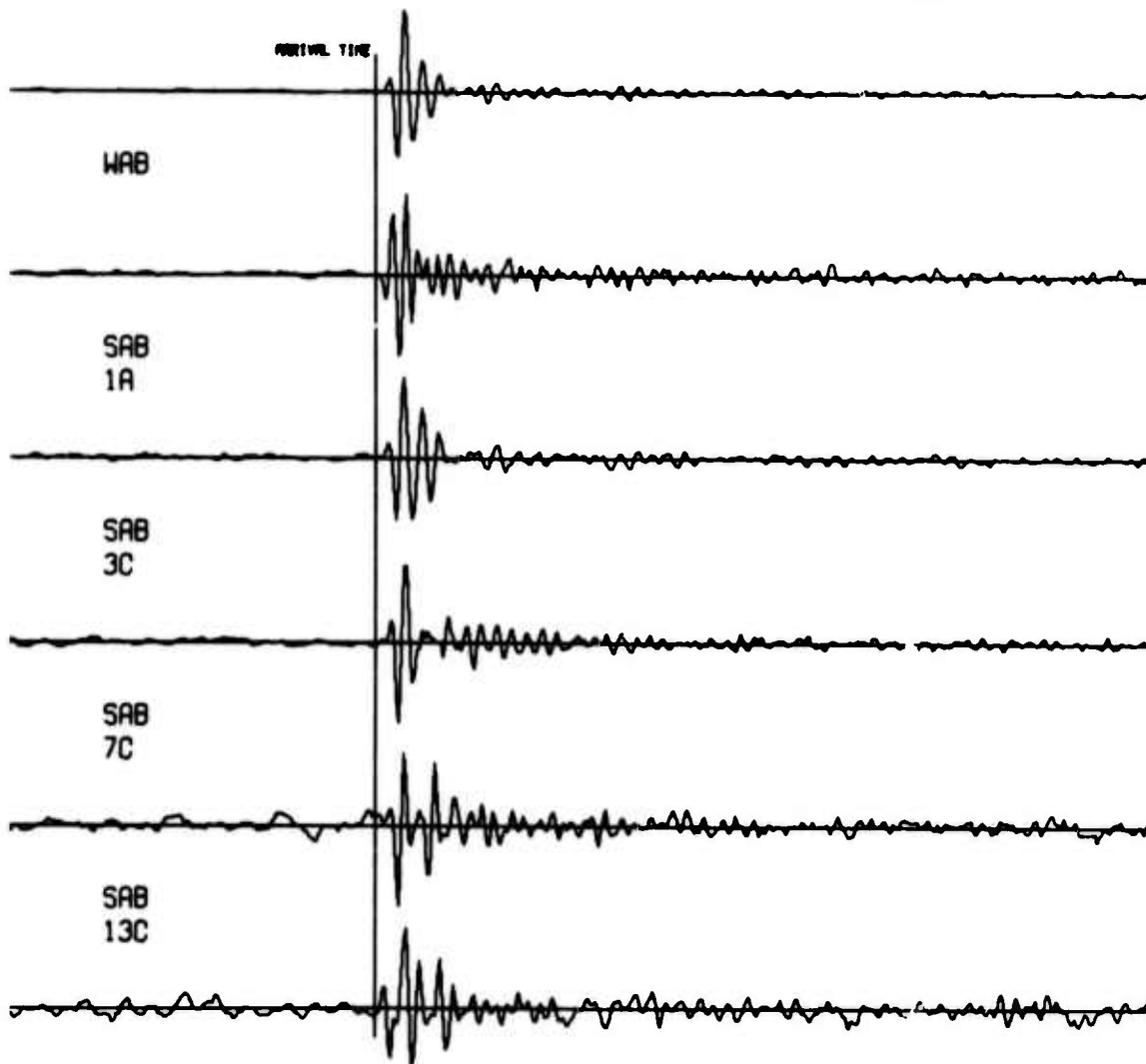
1975 AUG 12

EPX NO. 8579 ARR. 15.7.45.8 66.9N 133.4E 5.1MB 33KM

DIST = 45.9 AZI = 27.7 AMP = 22.3 PER = 0.7

AB

— = 5 SECONDS



LASA INFINITE VELOCITY SUBARRAY SUMS 12 AUG 75

15:09:44.7

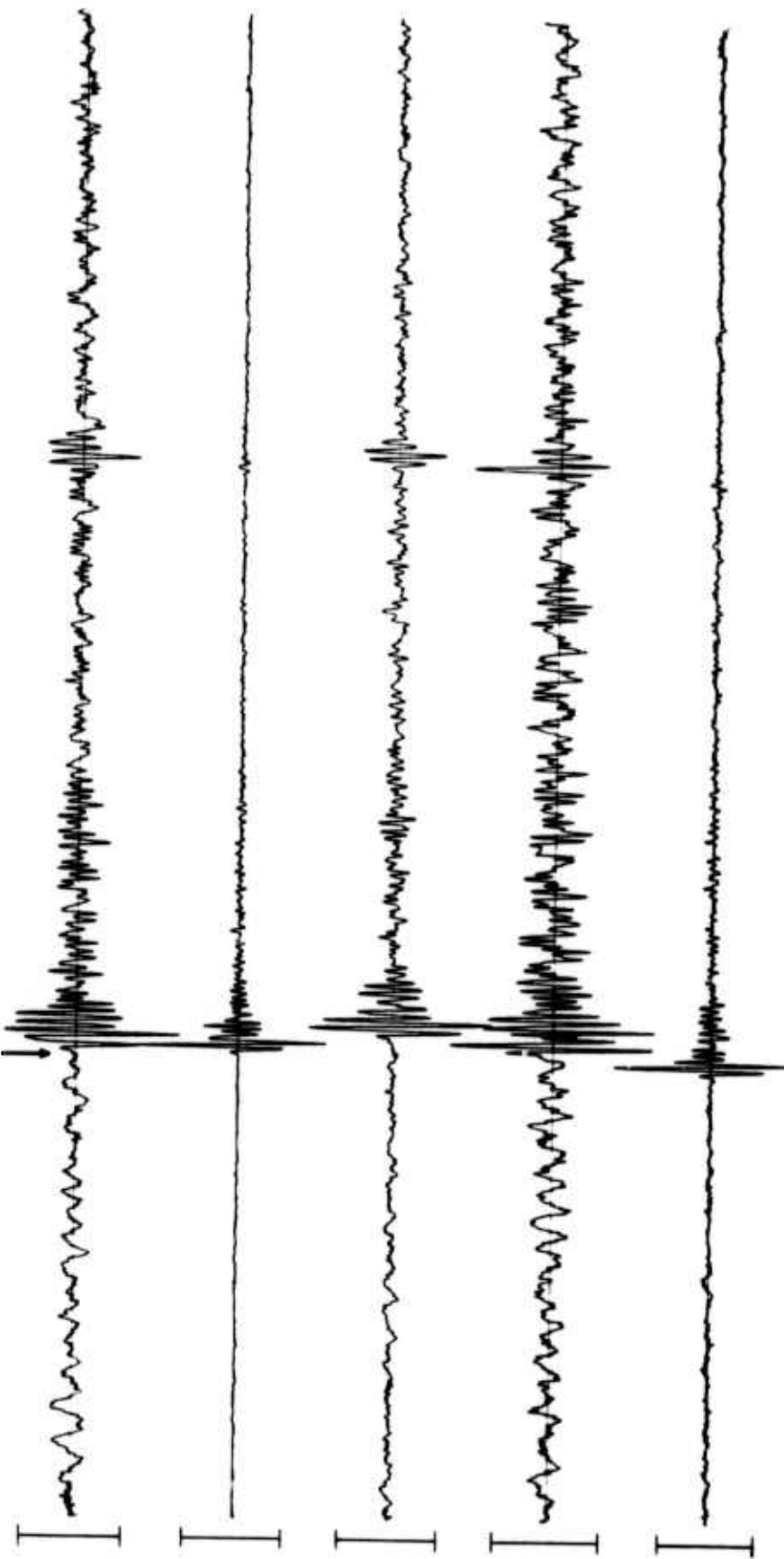
A1 SUM  
47.35 MP

D1 SUM  
455.22 MP

D2 SUM  
94.11 MP

D3 SUM  
31.04 MP

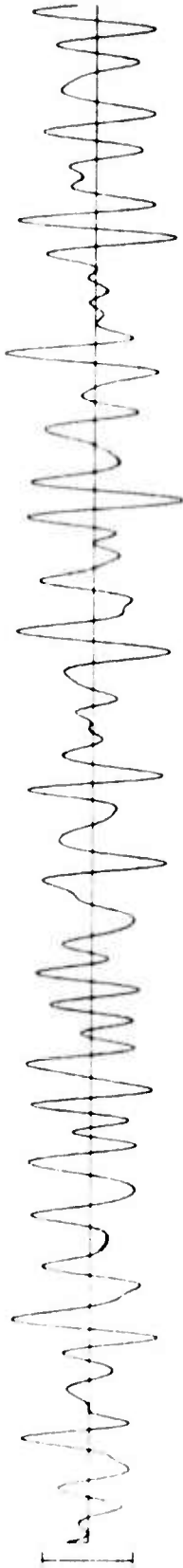
D4 SUM  
173.19 MP



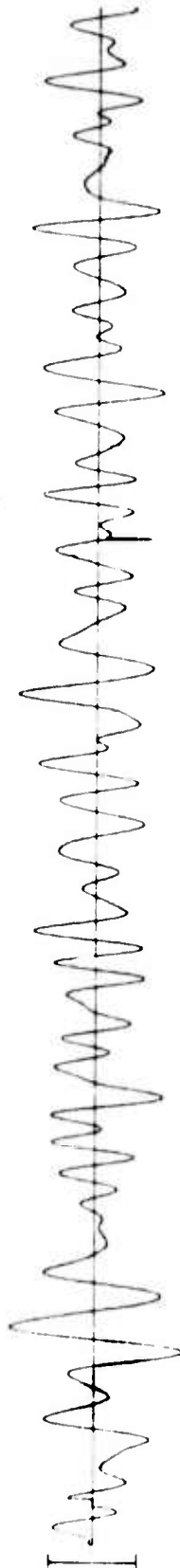
20 SEC

FN-WV 12 AUG 75

LPT  
1243.00 MP



LPT  
1248.05 MP



LPT  
2270.07 MP



TIME



-11-

CP-S0 12 AUG 75

LPI  
1074.55 MIP



LPI  
1336.00 MIP



LPI  
1456.41 MIP



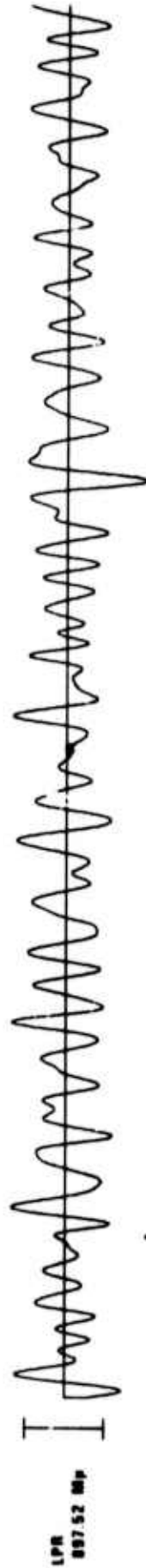
TIME



2 MIN

15:45:00

WH2YK 12 AUG 75



T100E

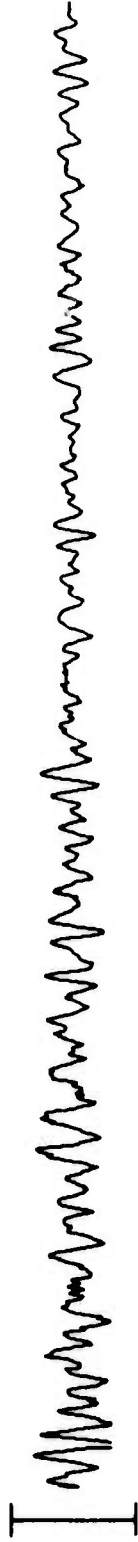
15:20:00



**NORSAR LONG-PERIOD BEAMS 12 AUG 75**

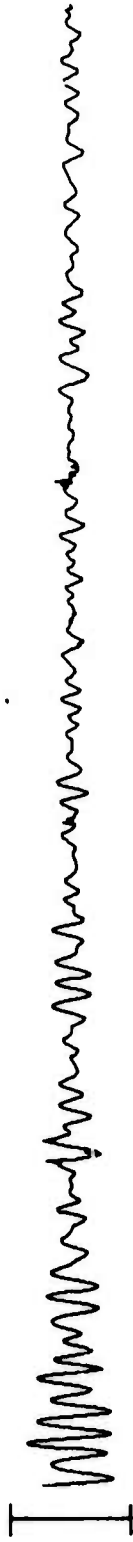
**LP VERTICAL**

**900.36 MHz**



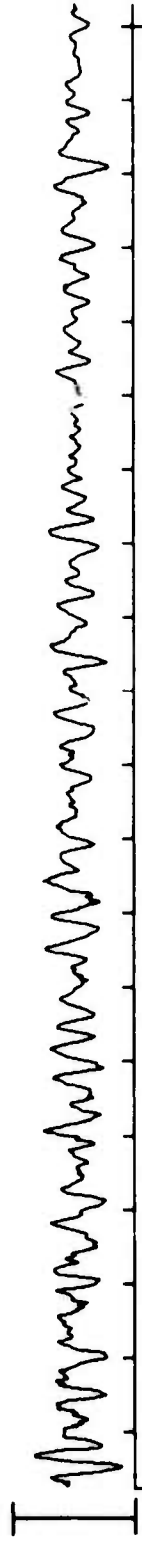
**LP RADIAL**

**2652.57 MHz**



**LP TRANSVERSE**

**1767.53 MHz**



↑  
15:18:14

1 MIN